



The Pioneer Of Geosynthetics
S I N C E 1 9 7 2

Subgrade & Soil Recommendations for Geomembrane Products

SUBGRADE PREPARATION

GSE and others install geosynthetic lining materials on earth surfaces prepared for liner installation by others. No liner shall be placed on surfaces not previously found acceptable by the GSE site supervisor or authorized installer or their agent. On projects installed by GSE, it is our practice to require written "Subgrade Surface Acceptance" documentation.

Surfaces to be lined shall be smooth and free of all rocks, stones, sticks, roots, sharp objects, or debris of any kind. No stones or other hard objects that will not pass through a 3/4" screen shall be present in the top 1" of the surfaces to be covered. The surface should provide a firm, unyielding foundation for the membrane with no sudden, sharp or abrupt changes or break in grade.

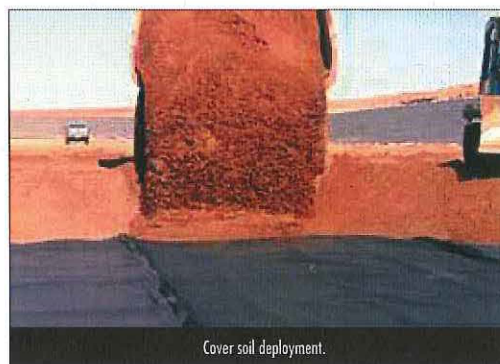
DEPLOYMENT OF COVER SOILS OVER GEOMEMBRANES

Cover soils deployed over synthetic liners should be free of all sharp objects sharp rocks, and sharp sticks. The stones present in the soil should be rounded and smooth and no larger than 3/4 inch in diameter.

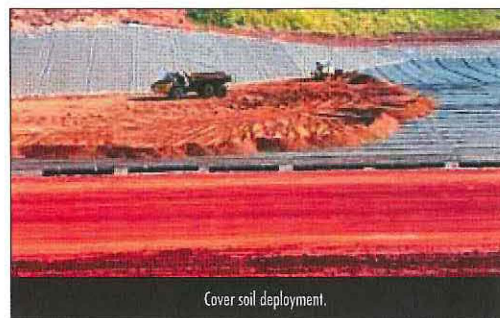
Cover materials should be deployed using bulldozers separated from the membrane by at least one foot of cover soil for the smallest size dozers, and at least 18 inches of cover soil separation for the larger size dozers. The spreading operation should begin with placement of a mound of soil such that as the dirt covers the liner, it must ascend up the mound and then down the mound suppressing the formation of wrinkles. The movement of the soil must have this vertical descent to it as the dirt is spread over the membrane, rather than be pushed horizontally across the membrane. This type of action will suppress the formation of wrinkles in the path of the cover soil as it is being spread over the membrane and avoid burying wrinkles in the liner. Alternatively, a front end loader can be used to place the cover soil out ahead of the path of the dozer to minimize spreading of the dirt and suppress wrinkle formation. If these procedures are followed, there should be no threat of puncture to the membrane due to cover soil operations, and buried wrinkles should be minimized.



GSE HDPE & LLDPE geomembranes.



Cover soil deployment.



Cover soil deployment.